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THE DEVELOPMENT OF THE PHILIPPINE ISLANDS*

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The Philippine Islands are very far from a satisfactory state of development. The Bureau of Lands estimates that less than one-half of the agricultural lands of the islands are in cultivation. The Philippine Islands have a population of only 8,750,000 and yet import more foodstuffs per capita than does Japan with a population of more than 50,000,000. If the Filipino sugar planters harvested as much sugar to the acre as do the planters of Java, the Philippines, without increasing the area in cane, would be the leading cane sugar producing country of the world, Cuba alone excepted. If the rice growers of the Philippines obtained as high acre yields as do the rice growers of Japan or the United States, instead of buying from India and Japan one-fourth the rice consumed in the islands, the Philippines would be the third largest rice-exporting country in the world. If the acre yield of corn in the Philippines equaled that of the United States or Japan, the Philippine Islands would have grain enough to support a larger pork and poultry industry than has either Canada or Australia.

These are among the possibilities of the Philippines, with less than half the reasonably good agricultural land in cultivation. When all the land is utilized to the limit of its producing power, when the fisheries, manufactures, and commerce of the islands are developed, enough food and wealth will be produced to support 40,000,000 people, a population as large as that of Great Britain. Two types of farming are necessary to the proper development of the Philippines; the small family farm for most of the land and people, and the large, capitalized plantation for the production of sugar. The Government of the islands has not yet fully recognized the difference in the requirements of the type of agriculture which involves large areas, much capital, and ample powers, and that which is best organized as household farms. Immigration to furnish the labor for developing quickly the resources of the islands would have to come from China, Japan, and India, and the capital would have to come largely from the United States.

THE BUSINESS OF THE PHILIPPINES

Before the war disturbed world business, the value of the purchases of the people of the Philippines amounted to about $2,500,000 more than the value of their sales. A study of the business of the islands reveals many wastes. For example, approximately 9,000,000 pounds of raw sugar are annually sold from the islands at an average price of two cents a pound, all of which, or its equivalent, is brought back again as refined sugar at five cents a pound. What was sold for $180,000 was bought back for $450,000. It cost approximately $70,000 to refine this sugar. The balance of $200,000 was absorbed in transportation charges and profits to people who, for the most part, do not live in the islands.

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*The author visited the Philippine Islands in the summer of 1914 on request of the insular government to investigate the agricultural conditions and possibilities of the islands. In this article are embodied the main features of geographical interest of his report (The Development of the Philippines: A Summary of the Results of Special Investigation Made by Henry Jackson Waters, President of the Kansas State Agricultural College, by Authority of an Act of the Legislature of the Philippine Islands, 45 pp., Bureau of Printing, Manila, 1915).

One may ride for days through grass up to the saddle skirts without seeing a herd of cattle, carabao, or horses. Meanwhile, the people of the Philippines are paying the farmers of Australia and India about $1,750,000 annually for meat and work stock.

With large forest resources, the Philippines buy more than $500,000 worth of lumber a year outside of the islands. Yearly purchases are made outside the islands aggregating $12,500,000, on which the people of the Philippines pay an import duty of some $2,500,000, all of which the islands are capable of producing without beginning to tax the resources of the soil or the people.

The articles sold from the islands are principally raw materials, which support manufacturing industries and give employment to labor in other countries. But by exporting, for example, coconut oil instead of the dried cake a home industry might be developed, a substantial profit would be saved, and the coconut cake would be left at home as an excellent and very much needed food for live stock. The Filipino farmer suffers from limited credit, high interest rates, and the natural and irremediable handicap of floods, droughts, and typhoons. He suffers also from the remediable handicaps of defective land titles and a small family income. He sells the products of his labor at an inopportune season and at a low price and buys his supplies in small quantities at a high price. The Government is remedying the defects in land titles, but progress along this line is slow. The Government has a well-organized and well-managed Central Agricultural Bank, which is very helpful. The family income may best be increased by increasing the area tilled and by creating profitable home industries.

Stressing Important Industries

Agriculturally the Philippines must be essentially a rice, corn, sugar, copra, hemp, tobacco, carabao, cattle, poultry, pig, and pony producing country. Development along these lines is safe and sure, and there is abundant room for improvement in each. Special crops, such as citrous fruits, coffee, cacao, rubber, kapok, silk, and tea may be produced in a few special localities.

A larger and better laying hen, such as has been developed in South China and recently introduced into the Philippines, would be able to turn the balance of trade of the islands from the wrong to the right side of the ledger. Crossing the Philippine pony with Australian or Arabian stock has produced an animal much better adapted to the needs of the islands than is the present stock. It has been shown by experiment that Galloway and Indian cattle cross well on the native stock, and their offspring make a very satisfactory beef animal. The average yield of rice in the Philippines with unimproved seed is less than twelve bushels an acre. As much as fifty bushels to the acre has been produced by the use of pedigreed seed.

The Live-stock Industry

No one versed in animal husbandry would think of the Philippine Islands as an important live-stock country when compared with such countries as the United States and Argentina. Yet, when compared with other tropical countries or when compared with a semitropical country like Japan, in the number of animals at least, the Philippines make a good showing. For example, there are in the Philippines about seven times as many hogs, four times as many goats, and thirty times as many sheep as there are in Japan. In the number of horses, the Philippines fall far short of Japan, there being only about one-seventh as many, and only about one-sixth as many cattle. The carabao in the Philippines, however, easily offset the difference in the number of horses in the two countries.

The Filipino farmer has not yet learned the very important lesson that the Japanese farmer has only recently learned—the same lesson which the farmers in the United States were a long time in learning—that real progress can come only through better breeding and better care of the animals. Universally the owner of scrub stock gives them scrub care, while the immediate effect of placing improved stock in the hands of the farmer is to increase his interest in them and to increase the intelligence with which they are fed and managed. Much of the present opposition to the enforcement of quarantine regulations in the Philippines will subside when the farmer has improved stock.

There is a large area in Mindanao, the southernmost island of the archipelago, and many smaller areas elsewhere in the Philippines well adapted to the raising of cattle, carabaos, and ponies that are not being utilized. I am certain from personal observation that no public land approximating in value as a cattle range that of Bukidnon Province has been open to the settler in the United States within the last quarter of a century. I was told by those who have had experience with cattle on this range that two and a half acres of land will support a bullock the year through. Pasture land in the United States that will support a bullock half of the year for every two and a half acres has a market value of $25 to $45 an acre, and a rental value of $1.50 to $2.00 an acre a year. In the Philippines grazing land may be leased from the Government on long-time contracts for a few cents an acre.

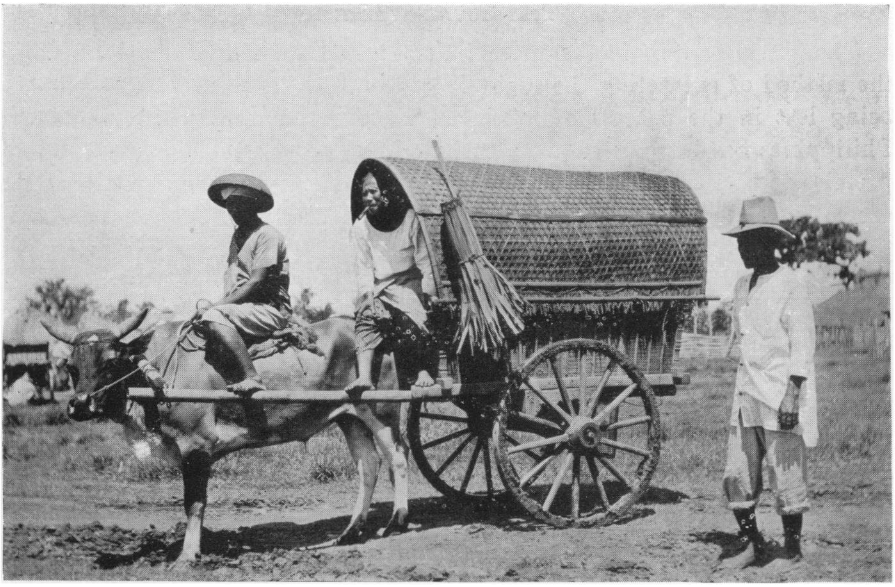

FIG. 1.

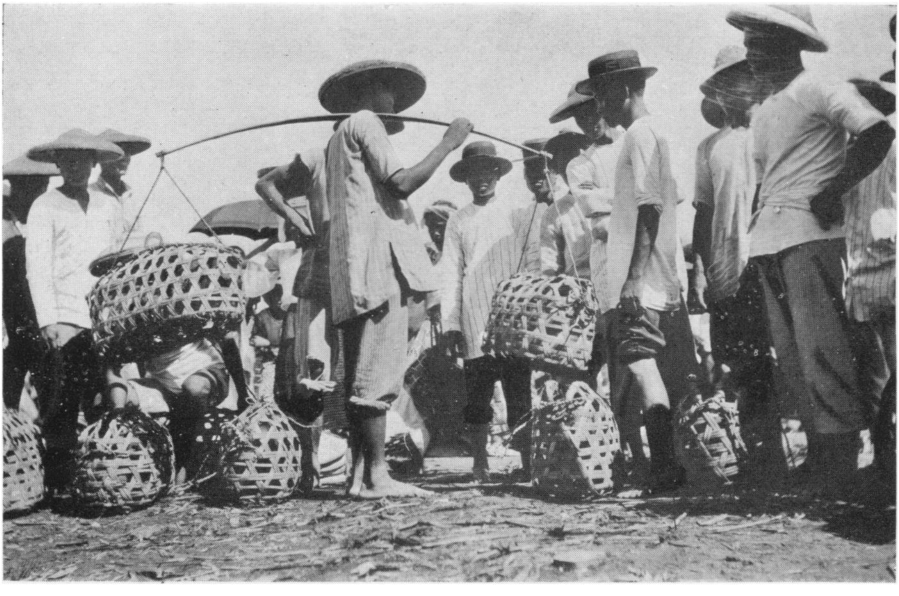

FIG. 2.

FIG. 1—On the way to the vegetable market—an example of the Filipino's waste of time. This family left home in the middle of the afternoon and arrived at the market about ten o'clock the next day, having driven all night. By the time they returned home they had consumed two days and two nights and had marketed 82 cents worth of farm products.

FIG. 2—A Filipino pig market. Pigs in the baskets. The man in the center had carried his two pigs twenty-two miles to market. (All figures, except Fig. 3, from photographs by the author.)

THE SUGAR WASTE

The glaring defect in the sugar industry in the Philippine Islands is in the method of extracting the sugar from the cane, 25 per cent of the sugar being lost in the process of milling. The Bureau of Agriculture of the Philippines has introduced and developed a number of strains of cane that promise to be more productive than those commonly grown, but the stalks are so large that they cannot be successfully milled with the present facilities. Other means of increasing the cane tonnage, such as deeper and more thorough plowing, crop rotation, the use of fertilizers, and, in some localities, irrigation, are available, but these means are of secondary importance.

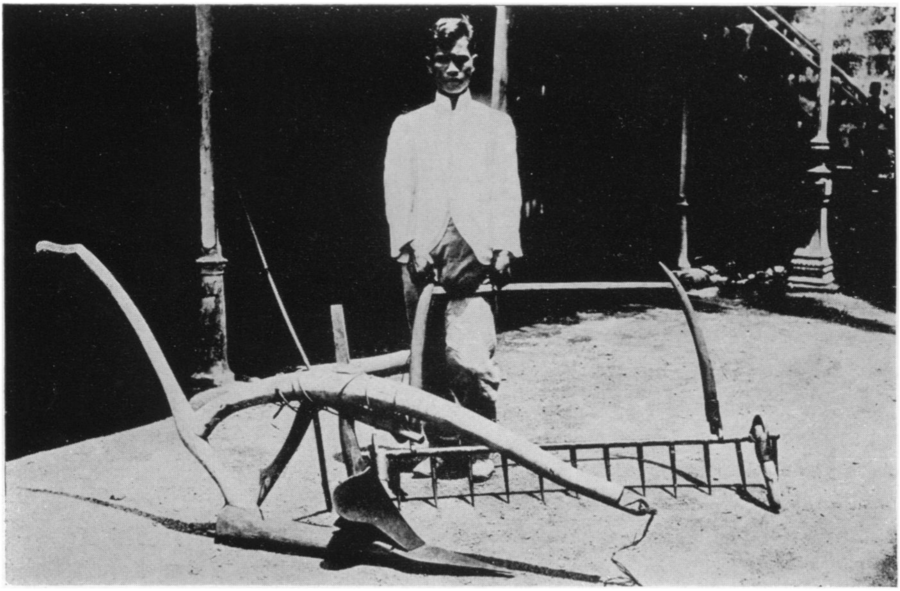

FIG. 3—A native plow and harrow, the complete equipment of machinery for the average Filipino farm.

Various suggestions have been made for meeting the need of capital among the planters. People competent to speak on this matter assert that outside capital would be available for the erection of all the mills needed in the islands if the Government would declare sugar centrals a public utility and would confer upon their owners the right of eminent domain with respect to the location of the mill, the right of way of its railroad tracks and switches, its pipe lines, sewers, and wharfs, and if the Government would also regulate competition by the same control it exercises over other public utilities, such as railroads, telephones, and banks, with respect to the rates charged, the nature of the contract between the mill owners and the planters, the location and plans for the mill, railways, pipe lines, sewers, and wharves, and make the central subject to governmental control with respect to the efficiency of its management.

Feeding the People

The first duty of the agriculture of a country is to provide a suitable and ample food supply for its people. No race has found rice to be a satisfactory principal diet upon which to rear children or to support labor. Unfortunately, the substitution of corn in whole or in part for rice, which in many sections of the islands could be accomplished with comparative ease, will not remedy the difficulty, because the deficiencies of corn are greater than are those of rice.

Some gain can be made by encouraging people to eat unpolished instead of polished rice. But the desire to eat polished rice, like the desire to eat white bread, reaches very deep into the prejudices of the human race. White bread and polished rice are everywhere the marks of respectability. Black bread and unpolished rice have at all times been the food of the poor. Besides, unpolished rice will furnish only a small part of the additional nutrients needed. Beef, pork, and poultry products will always be so dear that they will be beyond the reach of any except the well-to-do. For the masses, fish, beans, and peas must be relied upon to supply the deficiencies of rice and white bread. Even in the United States, where more meat is produced than in any other country in the world, we are beginning to look to the development of our fisheries and to the production of peas and beans as a means of supplementing wheat and corn as human food.

Germany up to the outbreak of the war was doing much to stimulate the production and use of fish as food. Bounties were paid, tonnage exemptions granted, and low rates of transportation allowed, to encourage the production and shipment of fresh fish. Educational campaigns were conducted by the Government, to show the people how best to cook and serve different kinds of fish, with a view to increasing the consumption of this kind of food. In traveling through Germany, one was constantly impressed with the degree to which the people use beans and peas as a substitute for meat. The ruggedness and efficiency of the German people cannot be questioned.

The Japanese have been obliged to meet the same problem. Along with rice they consume large quantities of barley, beans, and peas, as well as much fish and poultry. With the exception of barley, all these products may be made available in the Philippines. There is no reason why the poultry industry may not be highly developed. Unfortunately, no legume has yet been found that is to the Philippines quite what the soy bean is to Japan, what the white navy bean and the cowpea are to the United States, or what the lupines and lentils are to Germany.

Increasing the Fish Supply

Fish is already an important part of the diet of all classes of Filipinos. It is not certain whether the Philippines have as extensive fishery resources as some other countries, for they have not been developed. As the climate is hot and cold-storage facilities are not generally available, it is essential that the fishing industry be so developed that it will be subject to as little interruption as possible by storms. This may be accomplished by stocking the fresh waters of the islands and by encouraging fish farming. Japan is an example of the possibility of this sort of farming. In that country in 1903 there were 7,657,000 acres of fresh water devoted to the cultivation of carp, eel, snapping turtle, and the like, producing a yearly income of $683,250. In ten years the annual returns were increased more than threefold, while the area devoted to fish farming had been enlarged only a third.

Deep-sea and shoal fishing should be encouraged. To carry on successful deep-sea fishing, it is necessary to know the exact location and extent of the fishing banks. The determination of the location of the fishing banks is a governmental function.

Relieving Population Pressure

Population is not evenly distributed, and development is by no means uniform. In some regions, as in Cebú and Siquijor, there is considerable crowding, while in others, as in Mindanao, vast stretches of fertile land are yet unoccupied. In Cebú and Siquijor apparently all the land is in cultivation that is capable of yielding a satisfactory harvest. Indeed, I saw many fields of corn or other crops that are too steep and stony to be tilled profitably, or to support the right sort of family life. The farmers try to grow two and frequently three crops of corn on the same land each year, yet the yield of all three crops is pitiably small for one crop. The land was originally fertile, but much of it is so sloping that it has become very badly eroded. The supply of vegetable matter in the soil is practically exhausted, and the soil is left without power to withstand the severe droughts that are common at some seasons of the year.

At first thought, the remedy would seem to be to induce a part of the people now in the overpopulated regions to move to the unoccupied lands. This, however, I learned, is not easy to accomplish with the home-loving Filipino, besides, such a remedy would be only temporary. No country has been helped permanently, much less saved, through the emigration of its best stock. The people who emigrate to a new country are the strongest and best, the weakest being left behind to become the parents of the next generation. Some plan, therefore, must be evolved under which the people may support themselves well where they are.

It is true that if the farm crops were wisely rotated, the fields better tilled, improved seeds planted, and fertilizers applied, the harvest would probably be sufficient to support comfortably all the people now living in these regions, but it is idle to think of a farmer rotating his corn with clover or cowpeas so as to increase the subsequent yield, when the land is needed all the time to grow corn with which to support his family. It is equally futile to advise the use of fertilizers when capital is not available. Improvement in farming will come slowly, scarcely more rapidly than the increased food, which the improvement brings, will be needed by the natural increase in population and by higher standards of living.

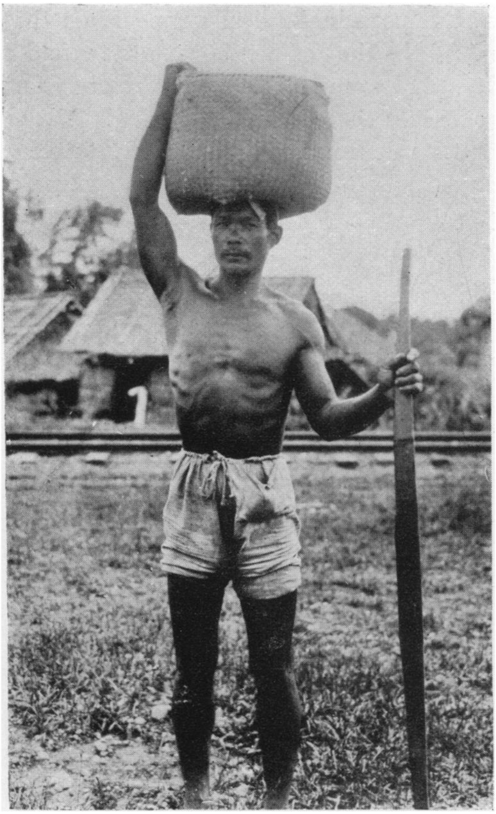

FIG. 4—A native Filipino farmer on the way to market his corn.

Moreover, there is a very definite limit to the degree to which a country can be developed by means of agriculture alone. When this limit is reached, as it seems to have been in these cases, further progress will come only from putting the people to work in other directions. Germany long ago reached the limit of her growth under agriculture alone, and developed manufactures. Japan's recent remarkable development has been through industry rather than agriculture. The United States, until recently the largest food-exporting nation in the world, is beginning to look to other countries for a part of her food and henceforth must rely more upon her manufacturing industries. The Filipinos would be following the teachings of the best experience of other peoples by setting to work to develop manufactures. During my visit to some of the overcrowded islands, I saw ships bringing away hogs, corn, and other food products which were needed as food for the people at home. Every effort should be made to change the exports of these islands from food products to manufactured articles. At first, and perhaps permanently, the manufacturing must be done in the household. Schools in the congested centers can be converted into practical trade schools. There will then be money available with which to support the family, while legumes are grown on the land for green manure and with which to buy fertilizers and other equipment. The combined income of an improved agriculture and a well-organized household industry would set the people well on their way toward a condition of prosperity and commercial independence.

Setting the People to Work

Setting the people at the tasks that they can best perform is the highest duty of the schools. There is at present a stupendous waste of labor and time. I saw bands of able-bodied men and women passing through the rice fields reaping the grain with an instrument less efficient than a jack-knife. In other fields I saw farmers cutting rice with a hand sickle such as was used in Biblical days. Even the use of this ancient method economized the time of the harvesters tenfold over that most generally employed. It would seem to be easy to persuade farmers to make a change that would so reduce the cost of harvesting. Yet the necessity for economizing labor or time does not appeal strongly to those who have little else to do. With any people the change to more economical methods is made easier if more profitable tasks are at the same time provided.

Household Industries

Filipino women are skillful, industrious, and eager to learn, and a good beginning in household arts has already been made. At the outbreak of the war nearly $500,000 worth of hats and some $200,000 worth of embroidery were exported from the Philippines. Philippine-manufactured articles are admitted into the United States duty free, while the articles manufactured in other countries with which the Filipinos would compete are taxed by the United States.

Hats are now one of the most important household products. Only three kinds are exported. Many of the remaining twenty varieties produced in the provinces are also capable of commercial development, yet a large number of American-made hats are worn. All the hats worn in the islands should be produced there, and the export hat trade might be greatly increased.

Embroidery is an infant industry. Exporters say that the supply has not met more than a fraction of the demand. The industry is now confined to a few towns near Manila and is capable of being greatly extended.

The Philippines produce a great variety of textiles on foot looms, but entirely for domestic consumption. If the efforts of weavers are turned to the production of artistic articles and cloth suitable for use in the United States, the industry can be made much more remunerative than it now is. To this end the Bureau of Education is introducing labor-saving mechanical devices

Baskets are a relatively new product, having been developed for export entirely in the schools. The great quantity of materials available, together with the efforts of the schools, should result in a larger basket industry even than Japan's.

The work of the schools in standardizing the handicraft products and in creating new household industries is certain to produce immediate results if a satisfactory system of selling is worked out. To find or create a market for such industries is a proper function of government.

The Schools as the Foundation of the Future

Most of the progress in all directions, and particularly in agriculture and industry, will be dependent upon the school system and general education. In fact, even now one cannot help being impressed with the practical nature of the instruction offered in the schools and its adaptation to the needs of the people. Provision is made for the training of teachers in vocational subjects in the College of Agriculture, in the Normal School, in the Vacation Assembly, and through the supervision of teaching by the officers of the Bureau of Education.

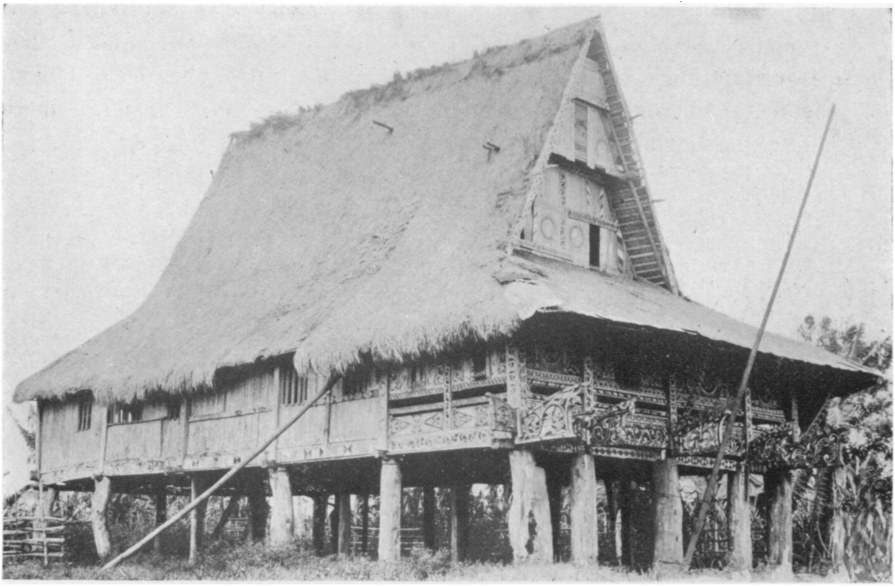

Fig. 5—Formerly the castle of a Moro chief, now an American school house.

Several types of schools especially designed to train farmers have been developed. These schools grade from the provincial secondary or intermediate school, with dormitory accommodations for the students and farms of more than a thousand acres in area, to the farm settlement primary schools in which half the time of the pupil is spent in practical field work. Instruction in vegetable gardening is a requirement of all the schools of the islands with the exception of those which give other trade or industrial courses. Nursery work is a feature of all intermediate school gardens. Every year almost 50,000 ornamental trees and shrubs and more than this number of fruit trees are propagated by the pupils and distributed among the farmers. There are 3,100 school gardens in the islands, and 39,900 home gardens conducted by school pupils under direct supervision. There are 6,000 boys and 1,800 girls receiving instruction in gardening.

Work in domestic science and household arts is also well developed in general. In the congested regions, instruction in household industries should receive the same emphasis that agricultural instruction has received in some of the partly developed agricultural regions of the Philippines. A provincial trade school devoted exclusively to the development of handicraft manufacture should be established in the city of Cebú.

THE SOLIDARITY OF THE PEOPLE

It is unfortunate for any country to be divided by mountains, seas, swamps, lakes, rivers, or other obstacles to the free intermingling, intertrading, and intermarrying of its people. A people divided into small groups, with different traditions and unequal opportunities, develop unevenly. Japan, with a backbone of mountains, has maintained the solidarity of her people by a uniform language, a strong government, and in recent years a well-organized system of public schools and a well laid out system of highways and railways. China, neglecting those agencies which facilitate the intermingling and intermarrying of the people, has not yet developed beyond the tribal state. The Philippines, with their thirty or more separate islands, with the many different dialects and languages, with poor means of transportation, have not yet advanced far toward solidarity, although considerable progress has been made in recent years.

Along with efforts to provide a better diet and to promote solidarity of the people should go efforts to prepare them for better ways of living. Race pride should be quickened; proper forms of recreation should be provided; and institutions like the University of the Philippines, the Bureaus of Education, Health, Agriculture, and Science should be highly developed. These institutions should be made capable of carrying not only the work of the Philippines, but also a part of the work of the world. It may be said that the Filipinos are already weighed down with public burdens, but in sacrifices for the common good a people always finds its principal source of strength.